



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/816,586

03/31/2004

Sunil P. Gupte

03108/0201122-US0

8423

7278

7590

06/02/2006

DARBY & DARBY P.C.

P. O. BOX 5257

NEW YORK, NY 10150-5257

EXAMINER

VALENROD, YEVGENY

ART UNIT

PAPER NUMBER

1621

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/816,586

Applicant(s)

GUPTE ET AL.

Examiner

Yevgeny Valenrod

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11-9-2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Rejections 35 U.S.C. 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The independent claim 1 uses a phrase "conventional separation methods", what is constitutes a conventional separation methods varies in the art, and there is no guarantee that what is considered a conventional separation method today will have the same meaning in the future. None of the dependant claims further clarify what is meant by the term conventional. Claims 1-15 are therefore indefinite and are rejected under 35 USC 112 2<sup>nd</sup> paragraph.

Claims 4, 5 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims utilize terms with unknown meaning to those in the art. The terms are:

Claim 4 –  $\text{Al}_2\text{C}>3$ .

Claim 5 –  $\text{Na}_2\text{CC}>3$ ,  $\text{K}^{\wedge}\text{CCb}$ ,  $\text{KHCOa}$

Claim 7 –  $\text{K}_2\text{CC}>3$ .

In order to advance the prosecution, the Examiner will interpret selected terms of claims 4 and 5 to mean the following:

Claim 4 –  $\text{Al}_2\text{C}>3 = \text{Al}_2\text{O}_3$

Claim 5 –  $\text{Na}_2\text{CC}>3 = \text{Na}_2\text{CO}_3$ ,  $\text{K}^{\wedge}\text{CCb} = \text{KHCO}_3$

***Rejections 35 U.S.C. 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gupte et al. (Chemical Communications, Cambridge United Kingdom, **2001**, 24, 2620-2621). Gupte et al. disclose a method of catalyzing a reaction between disubstituted ureas and carbonates to furnish various carbamates. In scheme 1 they teach conducting the reaction at 150°C for 8 hours using silica gel as a catalyst. Other reaction conditions including various identities of the urea and carbonate are presented in Table 1. The identities of catalyst include: Mg-Al hydrotalcite with Mg/Al ratio 3:1, silica gel, 5%lead on silica gel, 5% Potassium on silica gel, Metal oxide ( $\text{Al}_2\text{O}_3$ ), mixed Oxide ( $\text{PbZrO}_3$ ), Na-ZSM-5. Use of NaOH and  $\text{KCO}_3$  as catalysts is disclosed in on page 2621, lines 7-9 and in reference 14. Substituted ureas and carbonates that are mixed in the reaction and the carbamate products that are subsequently obtained are also disclosed in Table 1. They include: dimethyl urea, diphenyl urea and other ureas that are listed in claim 12 and products of claim 15 of the instant application. On page 2621, Column 1, last paragraph, Gupte et al teach recycling the catalyst.

***Rejections 35 U.S.C. 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9-11 rejected under 35 U.S.C. 103(a) as being obvious over Gupte et al. (Chemical Communications, Cambridge United Kingdom, **2001**, 24, 2620-2621).

The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or

Art Unit: 1621

(3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

The instant application claims a process for the preparation of carbamates from urea and carbonates in presence of various catalysts including a solid base catalyst. Claims 9-11 further limit the process by specifying a range at which the solid base catalyst is applied.

*Scope of prior art*

Gupte et al. teach a process for the preparation of carbamates from urea and carbonates in presence of various catalysts including a solid base catalyst.

*Ascertaining the difference*

Gupte et al do not teach the specific ranges at which the catalyst is used.

*Motivation*

Catalyst concentration can play a role in the time of the reaction, yields, and production of byproducts. One wishing to practice the invention of Gupte et al. would be motivated to find a suitable concentration of the catalyst to use for his/her purpose. It would have been obvious to a person of ordinary skill in the art, at the time of the invention, to vary the catalyst concentration in order to find condition most favorable for the process. Claims 9-11 are therefore rejected under 35 USC 103(a)

***Conclusion***

Claims 1-15 are pending in the application.

Claims 1-15 are rejected under 35 USC 112 2<sup>nd</sup> paragraph.

Claims 1-8 and 12-15 are rejected under 35 USC 102(b).

Claims 9-11 are rejected under 35 USC 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/816,586

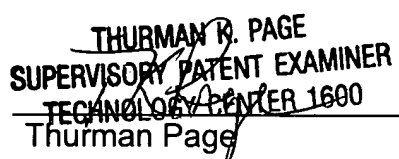
Page 7

Art Unit: 1621



---

Yevgeny Valenrod  
Patent Examiner  
Technology Center 1600



THURMAN R. PAGE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600

---

Thurman Page  
Supervisory Patent Examiner  
Technology Center 1600